

AMENDMENTS TO THE CLAIMS

Claims 1-28 (Canceled)

29. (Currently Amended) A magnetic recording medium having a recording layer on a substrate,

comprising at least one signal region on the substrate,

wherein a surface roughness of the signal region is different from that of other than the signal region, and

wherein the signal region has pre-pits that serve as a reference for a tracking servo of a recording and reproduction magnetic head.

30. (Currently Amended) A magnetic recording medium having a recording layer on a substrate, comprising:

an under layer on the substrate; and

at least one signal region on the under layer,

wherein a surface roughness of the signal region is different from that of other than the signal region; and

wherein the signal region has pre-pits that serve as a reference for a tracking servo of a recording and reproduction magnetic head.

31. (Previously Presented) The magnetic recording medium according to Claim 30, wherein the under layer is composed of a dielectric layer, a metal layer, or a magnetic layer, or a thin film laminated thereof.

32. (Previously Presented) The magnetic recording medium according to Claim 29, wherein the signal region has a concave or convex shape.

33. (Currently Amended) The A magnetic recording medium having a recording layer on a substrate,

comprising at least one signal region on the substrate,

wherein a surface roughness of the signal region is different from that of other than the signal region; according to Claim 32,

wherein the signal region has a concave or convex shape; and

wherein microparticles are packed in the signal region.

34. (Previously Presented) The magnetic recording medium according to Claim 33, wherein the microparticles are a self-organizing organic compound.

35. (Previously Presented) The magnetic recording medium according to Claim 29, wherein the signal region comprises pre-pits having a surface roughness Ra of 0.5 nm or more, and the surface roughness of the other than the signal region is constant and less than 0.5 nm.

36. (Previously Presented) The magnetic recording medium according to Claim 29, wherein the signal region comprises pre-pits having a surface roughness Ra of at least 0.5 nm or less, and the surface roughness of the other than the signal region is constant and more than 0.5 nm.

37. (Previously Presented) The magnetic recording medium according to Claim 29, wherein the recording layer is composed of a magnetic film having magnetic anisotropy in the direction perpendicular to the film plane.

38. (Currently Amended) The-A magnetic recording medium according to Claim 37, having a recording layer on a substrate,

comprising at least one signal region on the substrate,

wherein a surface roughness of the signal region is different from that of other than the signal region,

wherein the recording layer is composed of a magnetic film having magnetic anisotropy in the direction perpendicular to the film plane, and

wherein a reproduction layer, to which a recording magnetic domain formed on the recording layer is transferred, and to which the magnetic wall of the transferred

recording magnetic domain moves during the reproduction of recorded information, is further provided over the recording layer.

39. (Canceled).

40. (Currently Amended) The magnetic recording medium according to ~~Claim 39~~Claim 29, wherein the pre-pits that serve as a reference for the tracking servo of the recording and reproduction magnetic head have a concave/convex pattern that is smaller than the smallest pattern in the recording magnetic domain formed in the recording layer.

41. (Previously Presented) The magnetic recording medium according to Claim 29, wherein the maximum diameter of the signal region is 0.5 μm or less.

42-56. (Canceled).

57. (Previously Presented) The magnetic recording medium according to Claim 30, wherein the signal region has a concave or convex shape.

58. (Currently Amended) ~~The~~A magnetic recording medium ~~according to~~having a recording layer on a substrate, comprising:
~~an under layer on the substrate; and~~
~~at least one signal region on the under layer,~~
~~wherein a surface roughness of the signal region is different from that of other~~
~~than the signal region, and~~
wherein microparticles are packed in the signal region.

59. (Previously Presented) The magnetic recording medium according to Claim 58, wherein the microparticles are a self-organizing organic compound.

60. (Previously Presented) The magnetic recording medium according to Claim 30, wherein the signal region comprises pre-pits having a surface roughness Ra of 0.5 nm or more, and the surface roughness of the other than the signal region is constant and less than 0.5 nm.

61. (Previously Presented) The magnetic recording medium according to Claim 30, wherein the signal region comprises pre-pits having a surface roughness Ra of 0.5 nm or less, and the surface roughness of the other than the signal region is constant and more than 0.5 nm.

62. (Previously Presented) The magnetic recording medium according to Claim 30, wherein the recording layer is composed of a magnetic film having magnetic anisotropy in the direction perpendicular to the film plane.

63. (Currently Amended) ~~The A~~ magnetic recording medium ~~according to Claim 62, having a recording layer on a substrate, comprising:~~

~~an under layer on the substrate; and~~
~~at least one signal region on the under layer,~~
~~wherein a surface roughness of the signal region is different from that of other than the signal region,~~
~~wherein the recording layer is composed of a magnetic film having magnetic anisotropy in the direction perpendicular to the film plane, and~~

wherein a reproduction layer, to which a recording magnetic domain formed on the recording layer is transferred, and to which the magnetic wall of the transferred recording magnetic domain moves during the reproduction of recorded information, is further provided over the recording layer.

64. (Canceled).

65. (Currently Amended) The magnetic recording medium according to ~~Claim 64~~Claim 30, wherein the pre-pits that serve as a reference for the tracking servo of

the recording and reproduction magnetic head have a concave/convex pattern that is smaller than the smallest pattern in the recording magnetic domain formed in the recording layer.

66. (Previously Presented) The magnetic recording medium according to Claim 30, wherein the maximum diameter of the signal region is 0.5 μm or less.